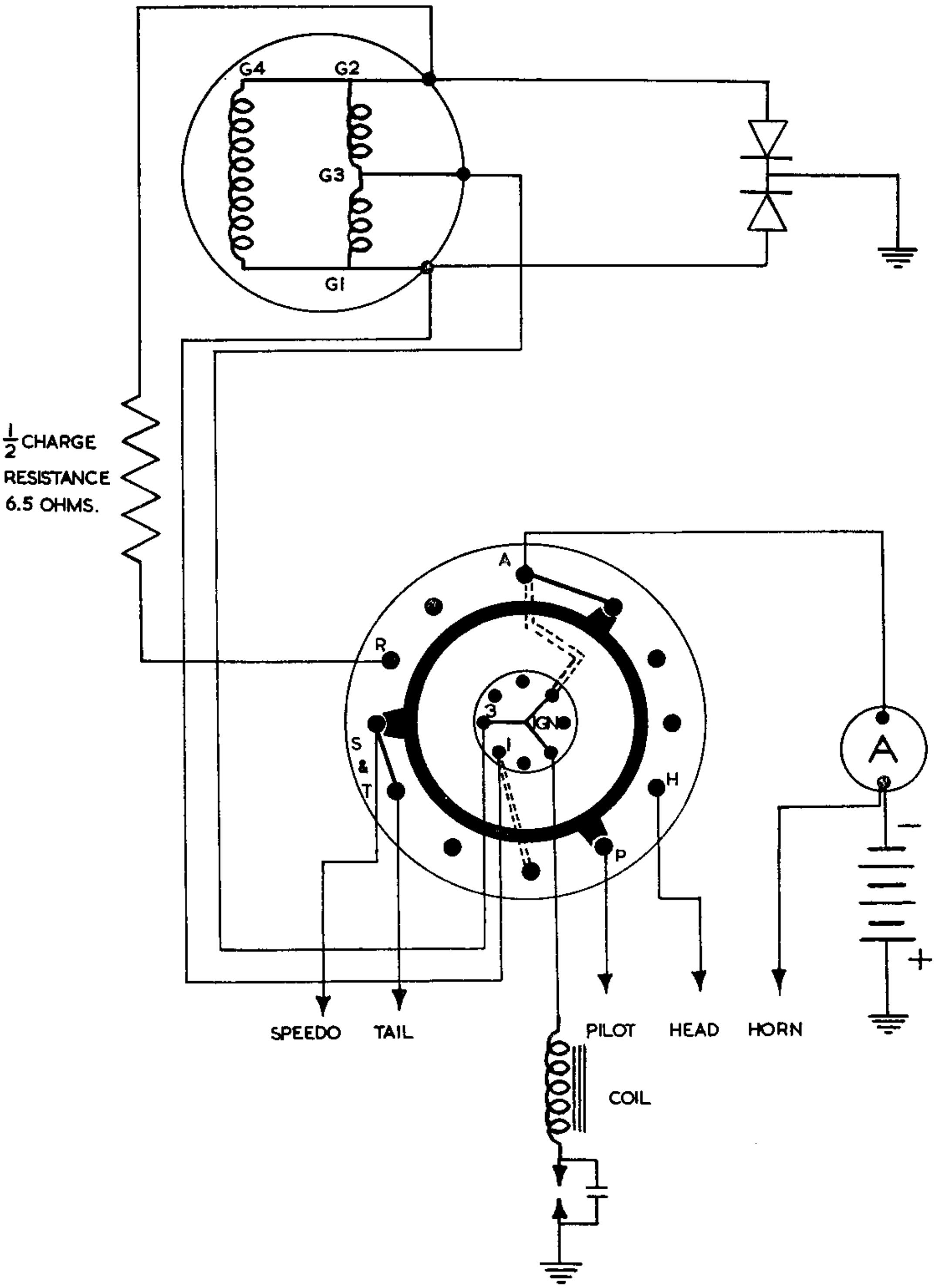
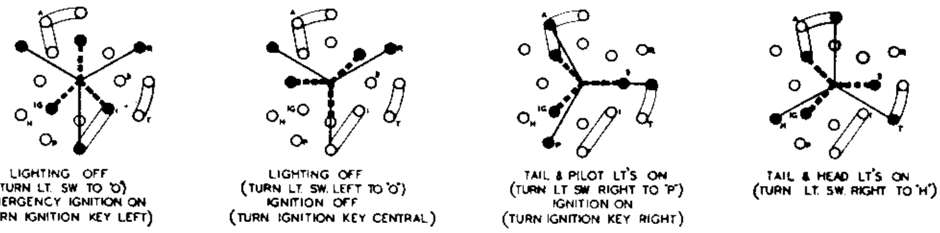
LUCAS

SELECTION OF CIRCUIT AND WIRING DIAGRAMS FOR MOTOR-CYCLES fitted with A.C. EQUIPMENT

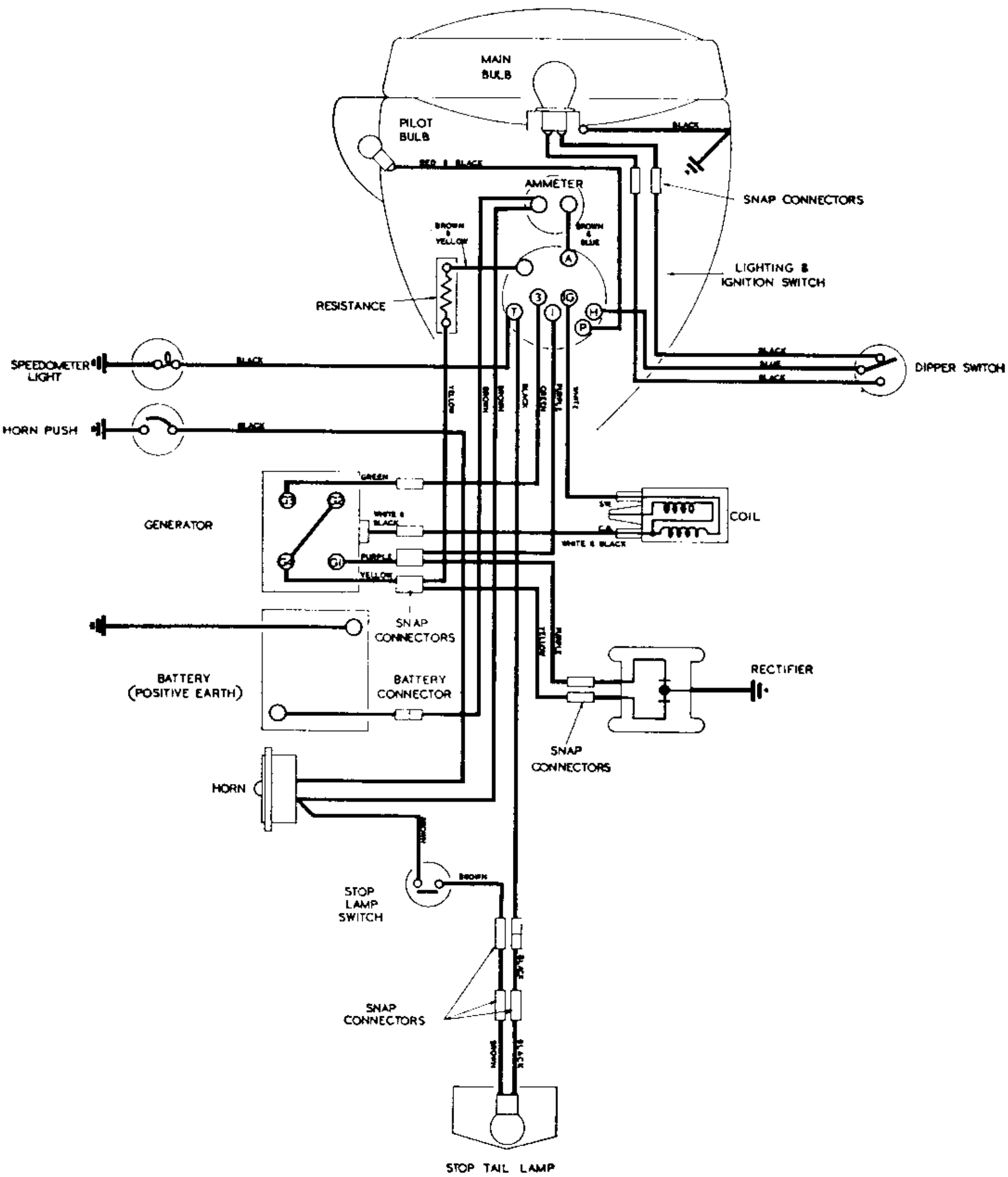


THEORETICAL DIAGRAM

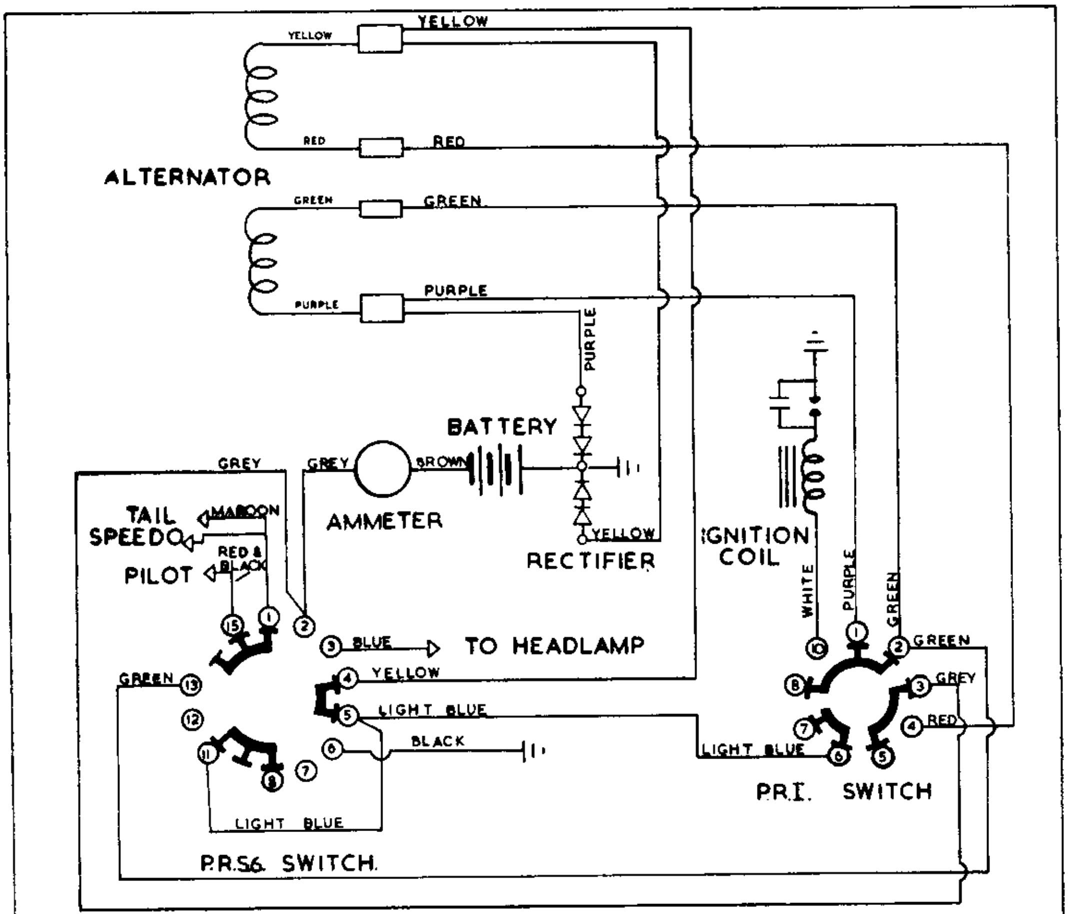
IA45 — B.S.A. Bantam, Brockhouse Indian Brave, Dot and O.E.C. Machines



DIAGRAMS SHOWING SWITCH POSITIONS LOOKING ON TOP OF SWITCH



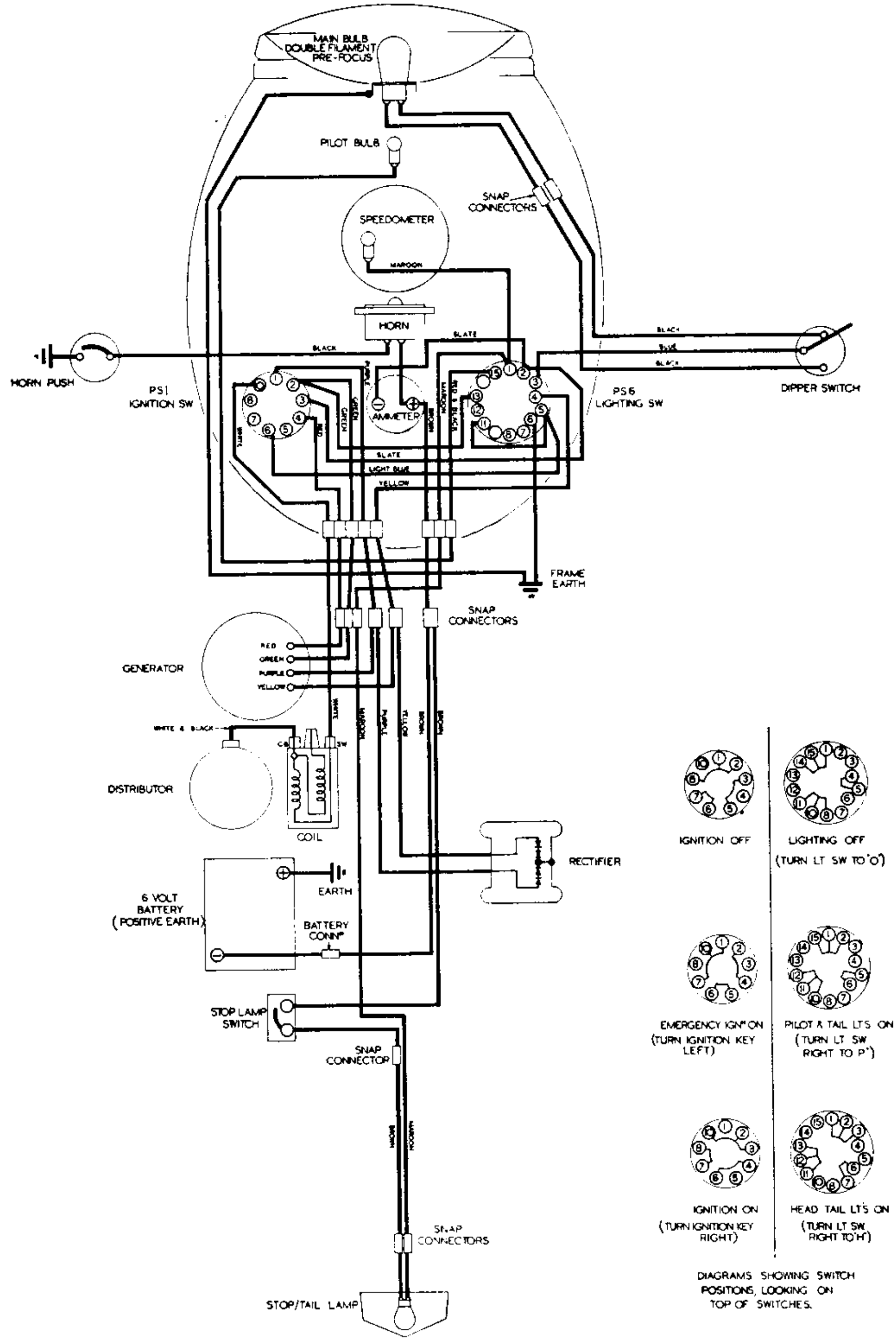
WIRING LAYOUT DIAGRAM



TECHNICAL DIAGRAM OF "THE RM 12 ALTERNATOR CIRCUIT" USED ON TRIUMPH "5 T.A.C." MOTOR CYCLES

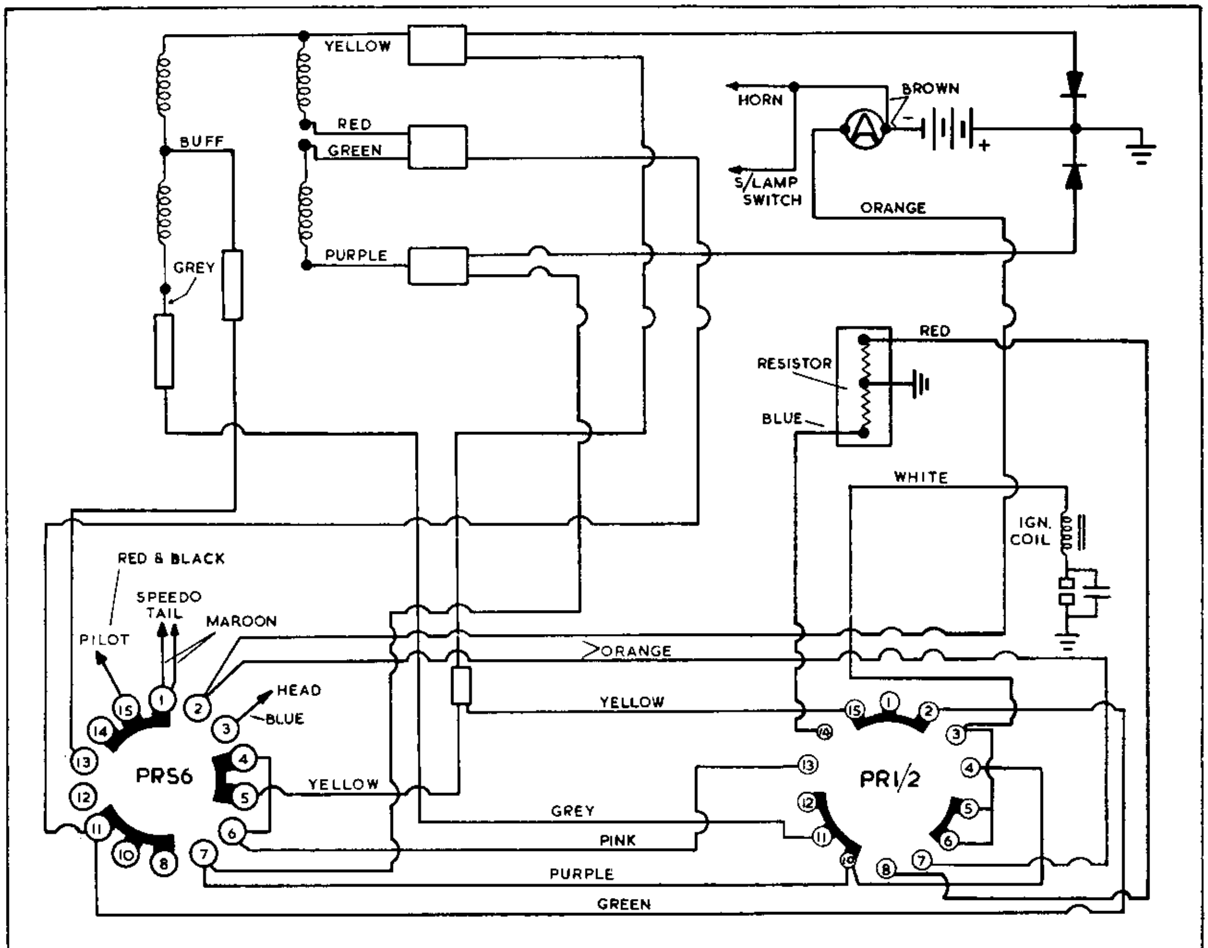
(The Alternator is single wound and a double plate full wave rectifier is incorporated in the circuit)

THEORETICAL DIAGRAM



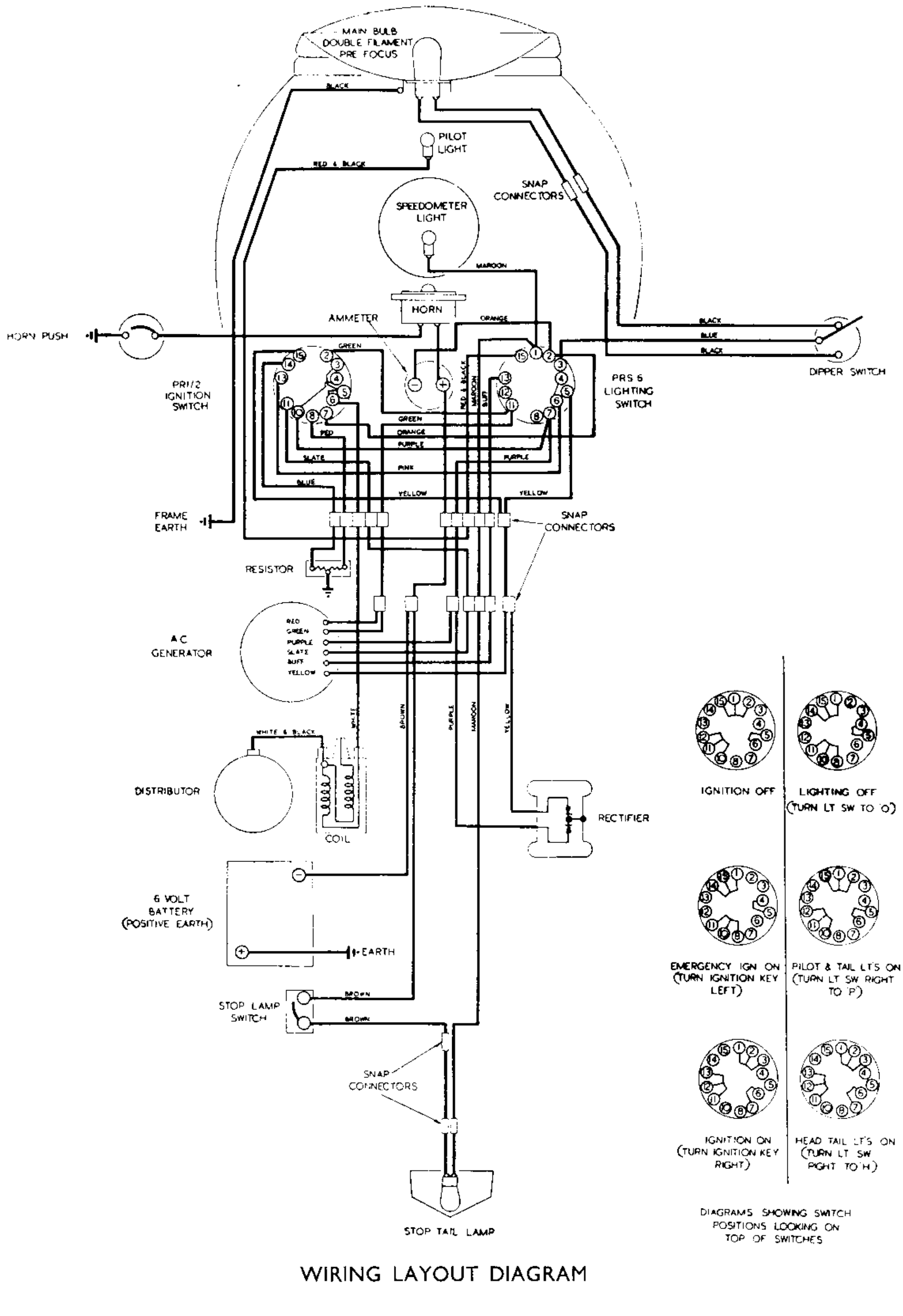
WIRING LAYOUT DIAGRAM

RM12 Series "C" — Triumph 5 T.A.C. Engine and Frame Nos. 35335 — 44821 (inc.)



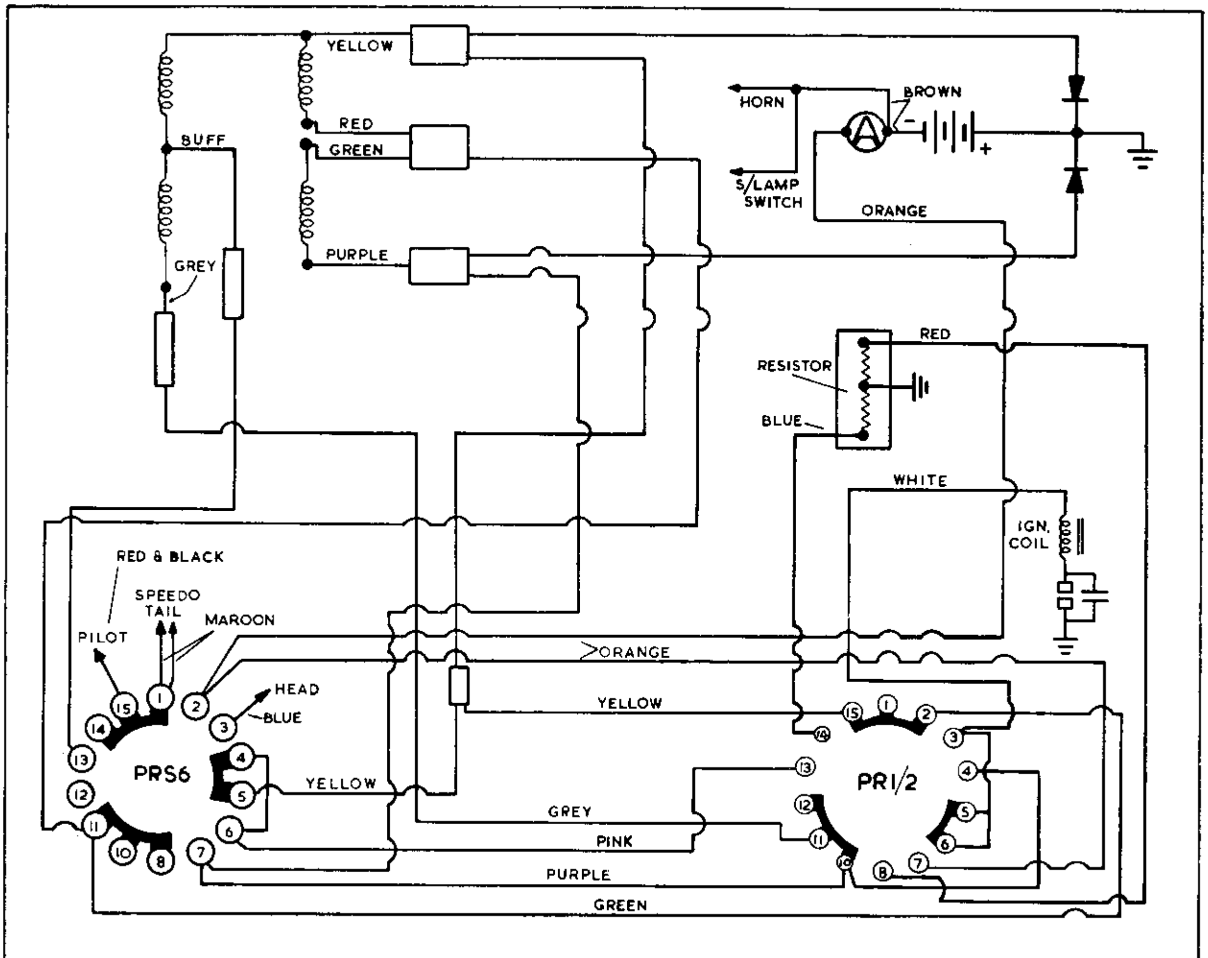
TECHNICAL DIAGRAM OF THE RM12 ALTERNATOR CIRCUIT USED ON TRIUMPH "5 T.A.C." MOTOR CYCLES. (MODIFIED FOR CONTINUOUS RUNNING IN THE "EMG" SWITCH POSITION)

THEORETICAL DIAGRAM



WIRING LAYOUT DIAGRAM

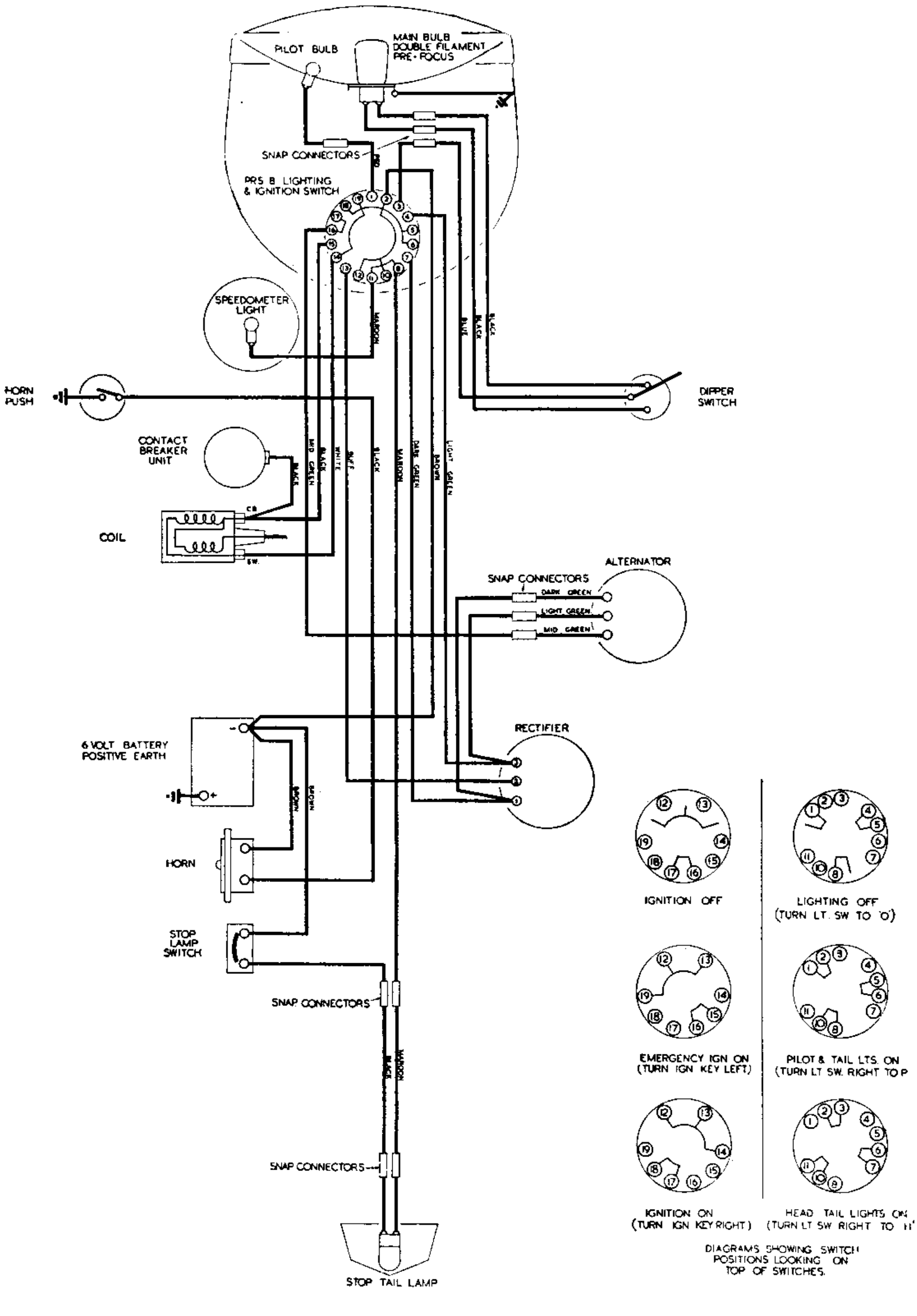
RM12 Series "C" — Triumph 5 T.A.C. Engine and Frame Nos. 35335 — 44821 (inc.)



TECHNICAL DIAGRAM OF THE RM12 ALTERNATOR CIRCUIT
USED ON TRIUMPH "5 T.A.C." MOTOR CYCLES.
(MODIFIED FOR CONTINUOUS RUNNING IN THE "EMG" SWITCH POSITION)

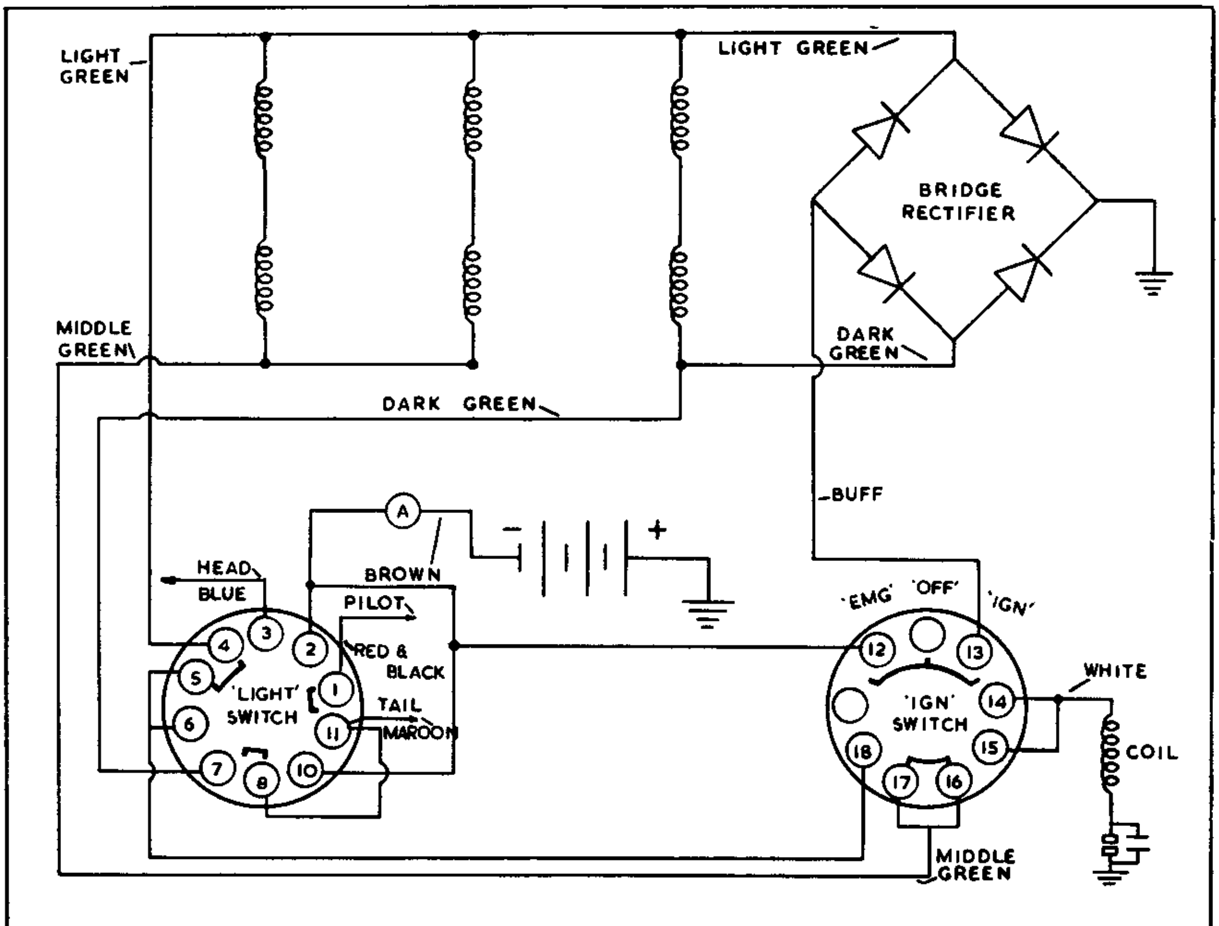
THEORETICAL DIAGRAM

RM13 — B.S.A. CIIG, Triumph "Terrier" and "Tiger Cub"



WIRING LAYOUT DIAGRAM

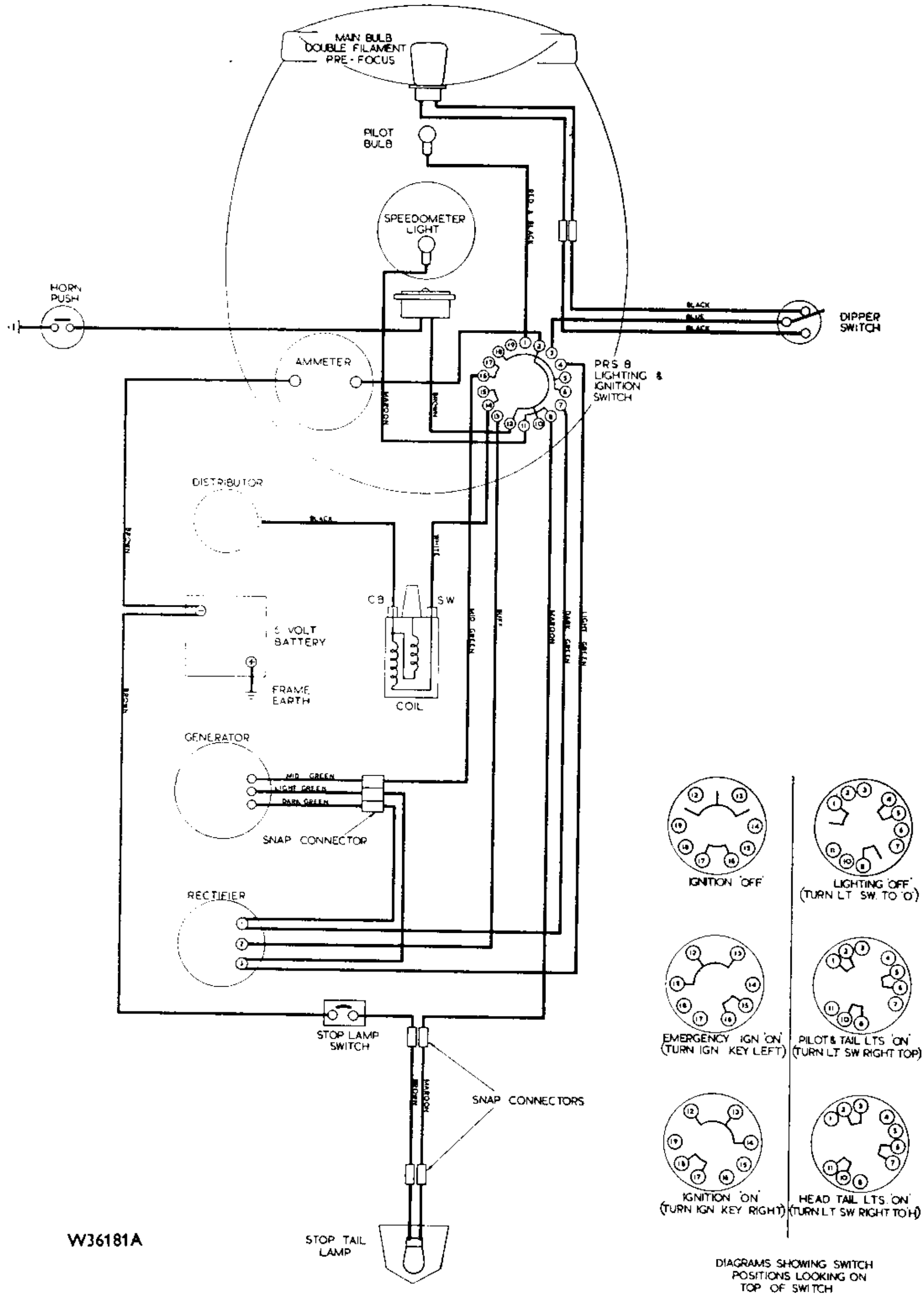
RM14 — Triumph 5 T.A.C. and 6 T.A.C. Engine Nos. 44822 (onwards)



TECHNICAL DIAGRAM OF LUCAS RM14 ALTERNATOR CIRCUIT USED ON TWIN CYLINDER MOTOR CYCLES

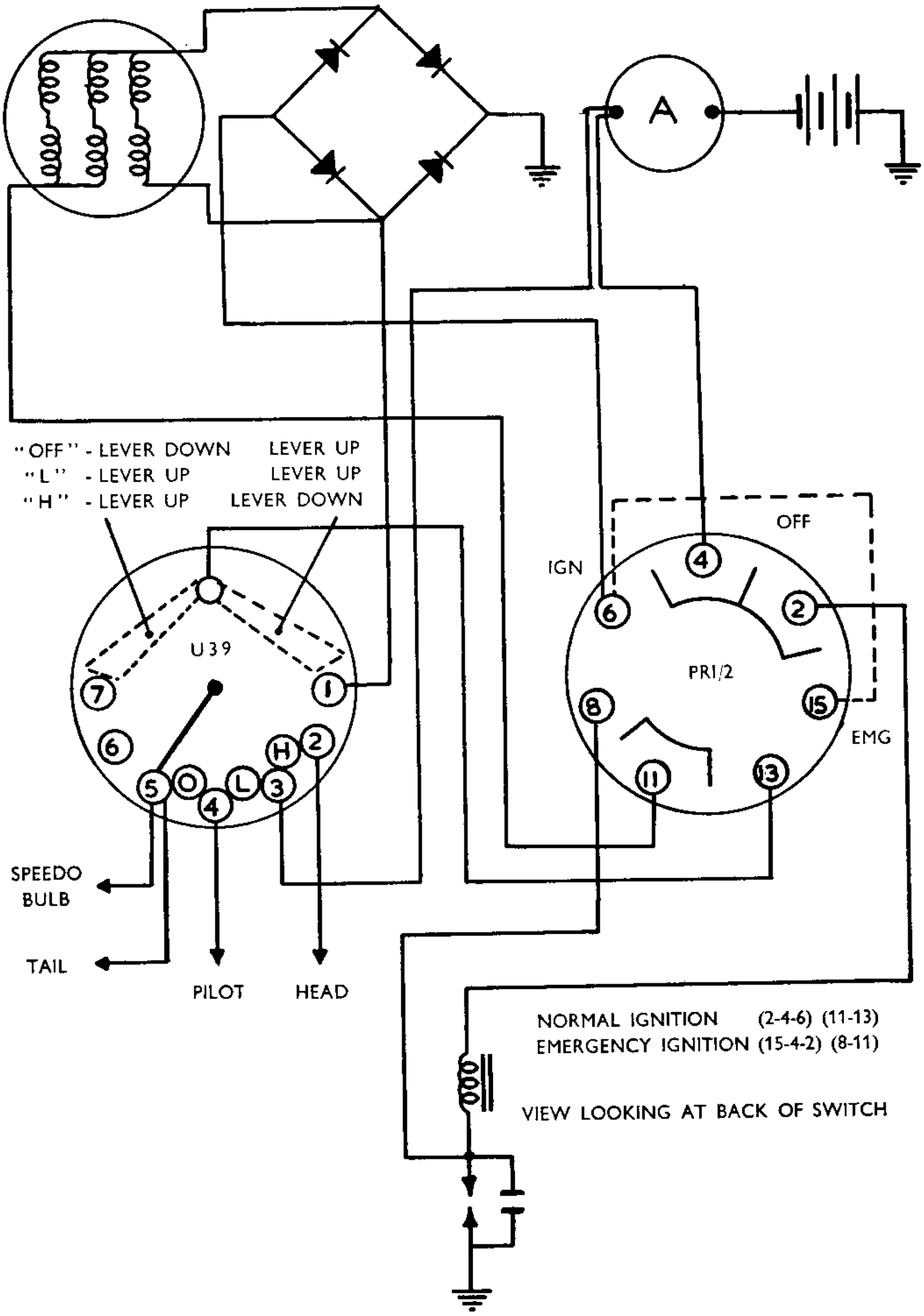
THEORETICAL DIAGRAM

RM14 — Triumph 5 T.A.C. and 6 T.A.C. Engine Nos. 44822 (onwards)



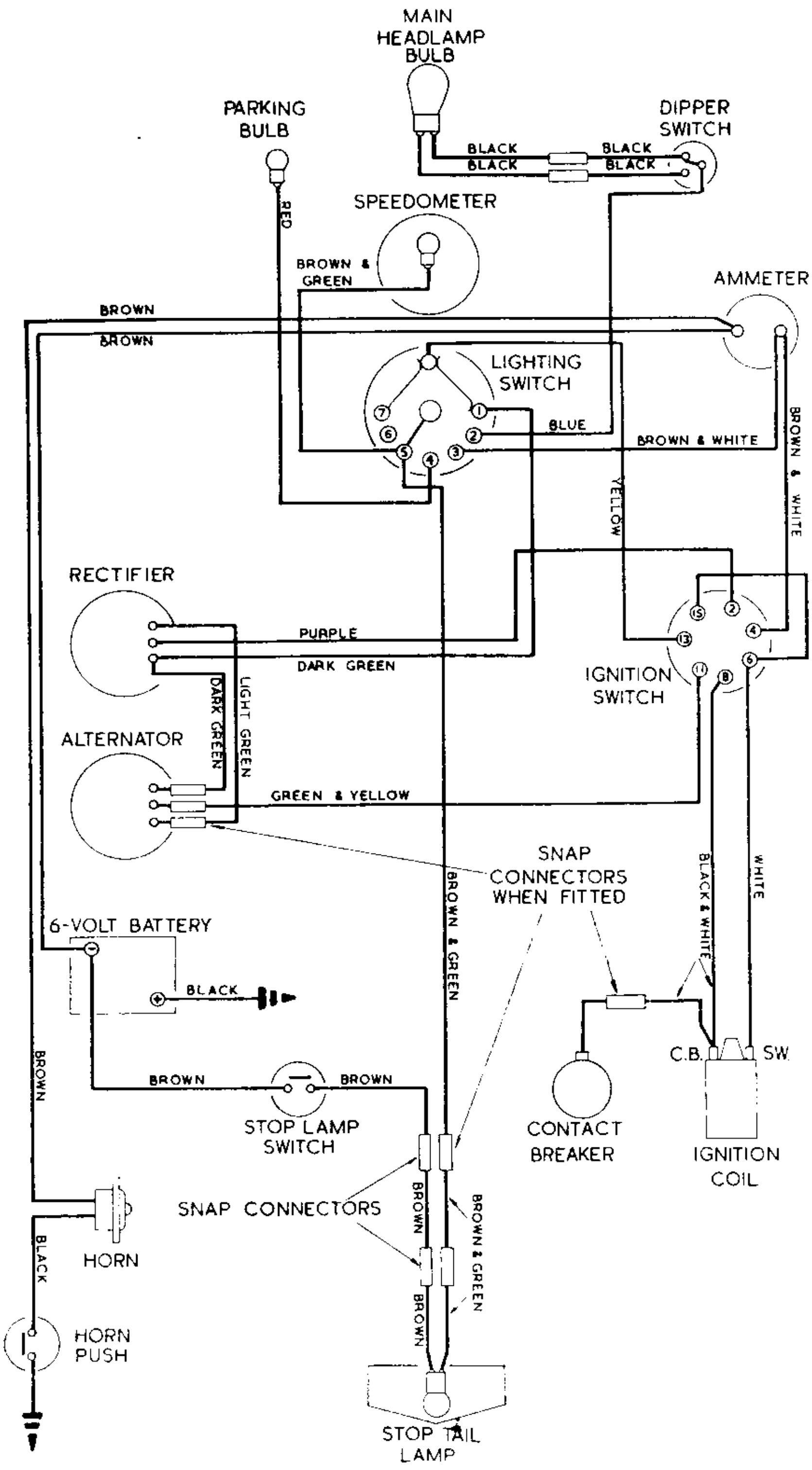
WIRING LAYOUT DIAGRAM

RM13 — Brockhouse Indian Brave, Enfield Clipper or any Single Cylinder Machine



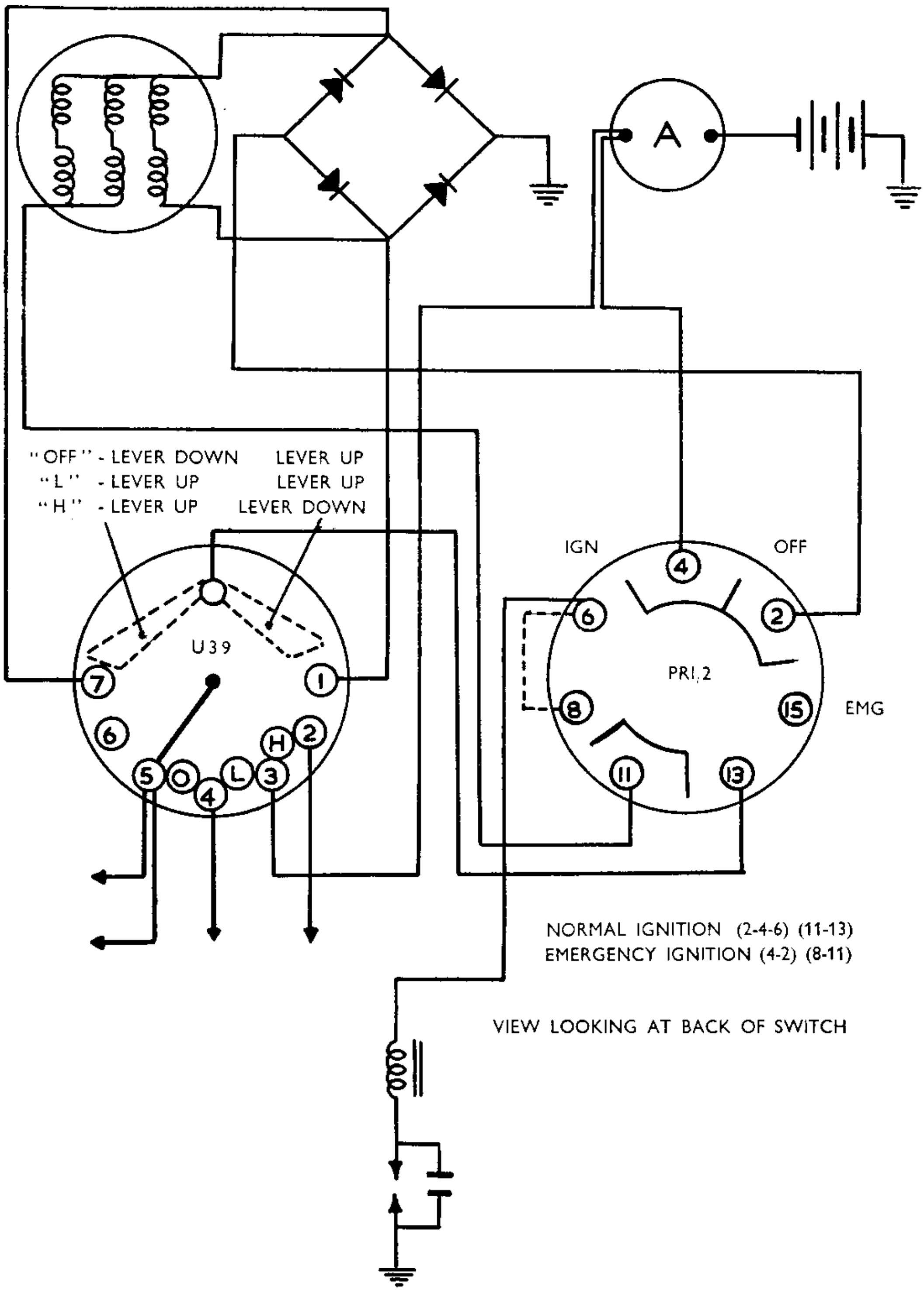
THEORETICAL DIAGRAM

RM13 — Brockhouse Indian Brave, Enfield Clipper or any Single Cylinder Machine



WIRING LAYOUT DIAGRAM

RM14 — Separate Lighting-Ignition Switch Circuit for use on Twin Cylinder Machines

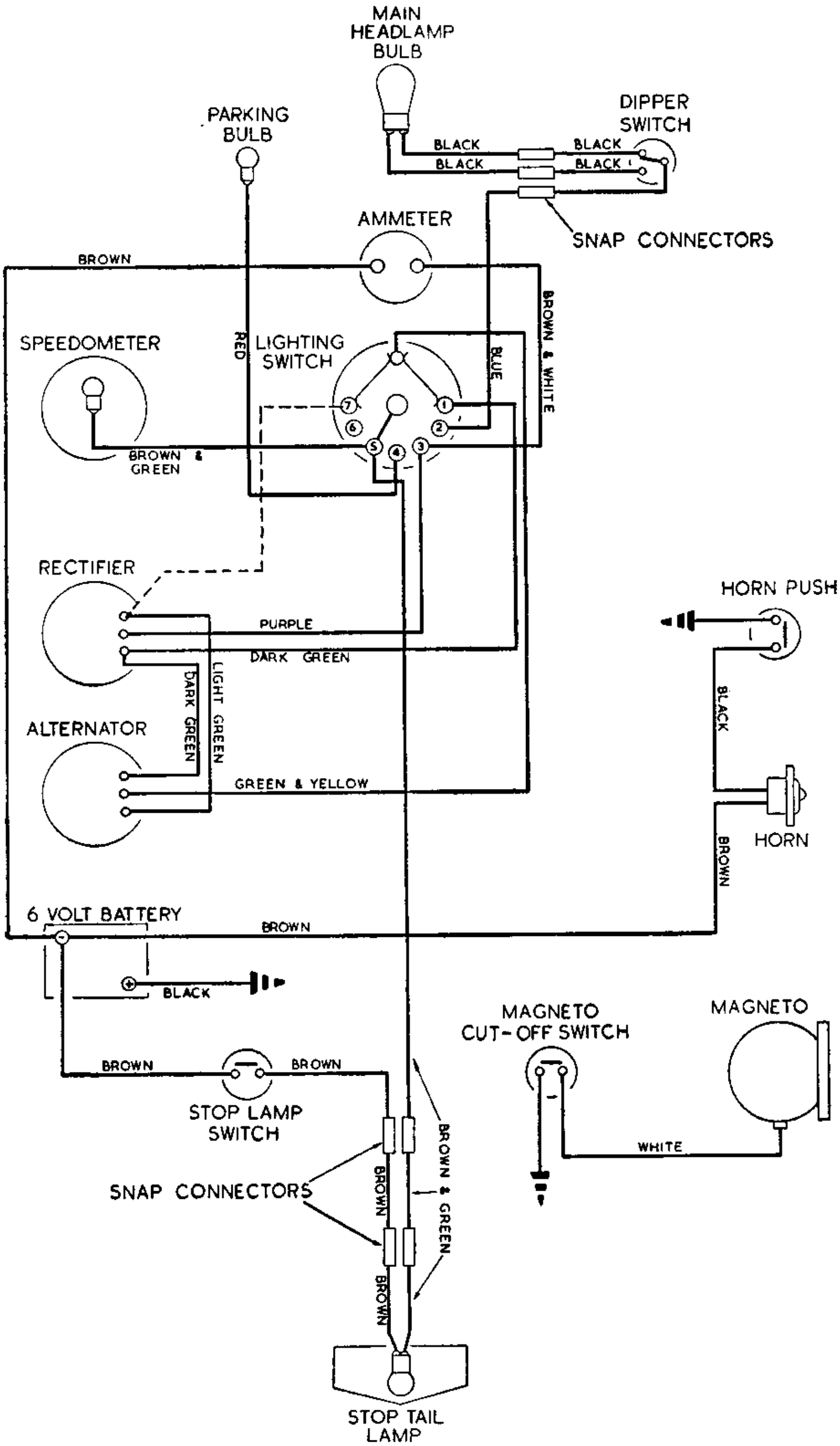


NORMAL IGNITION (2-4-6) (11-13)
EMERGENCY IGNITION (4-2) (8-11)

VIEW LOOKING AT BACK OF SWITCH

THEORETICAL DIAGRAM

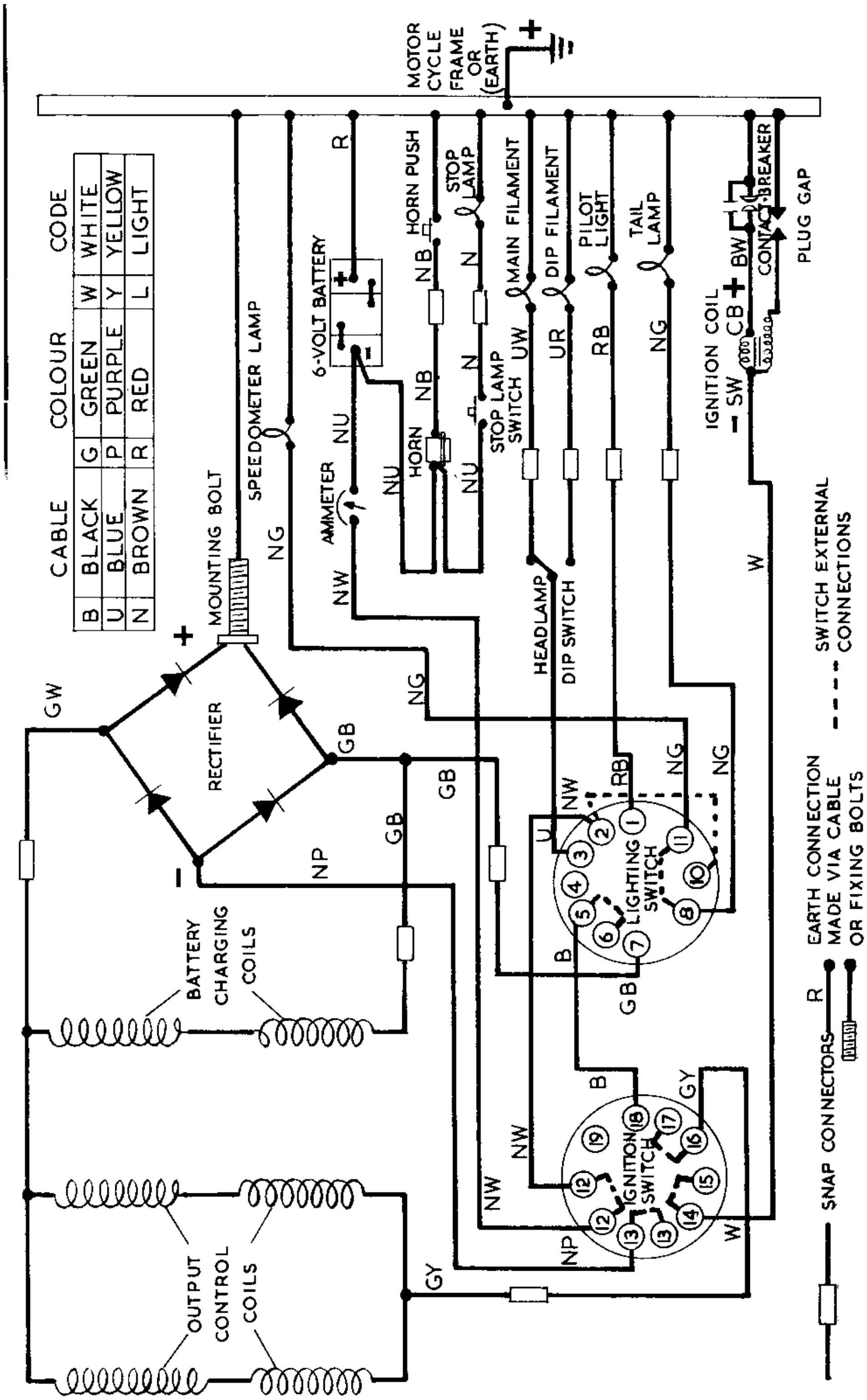
RM13 or RM14 — Circuit used on Single or Twin Cylinder Machines using Magneto Ignition



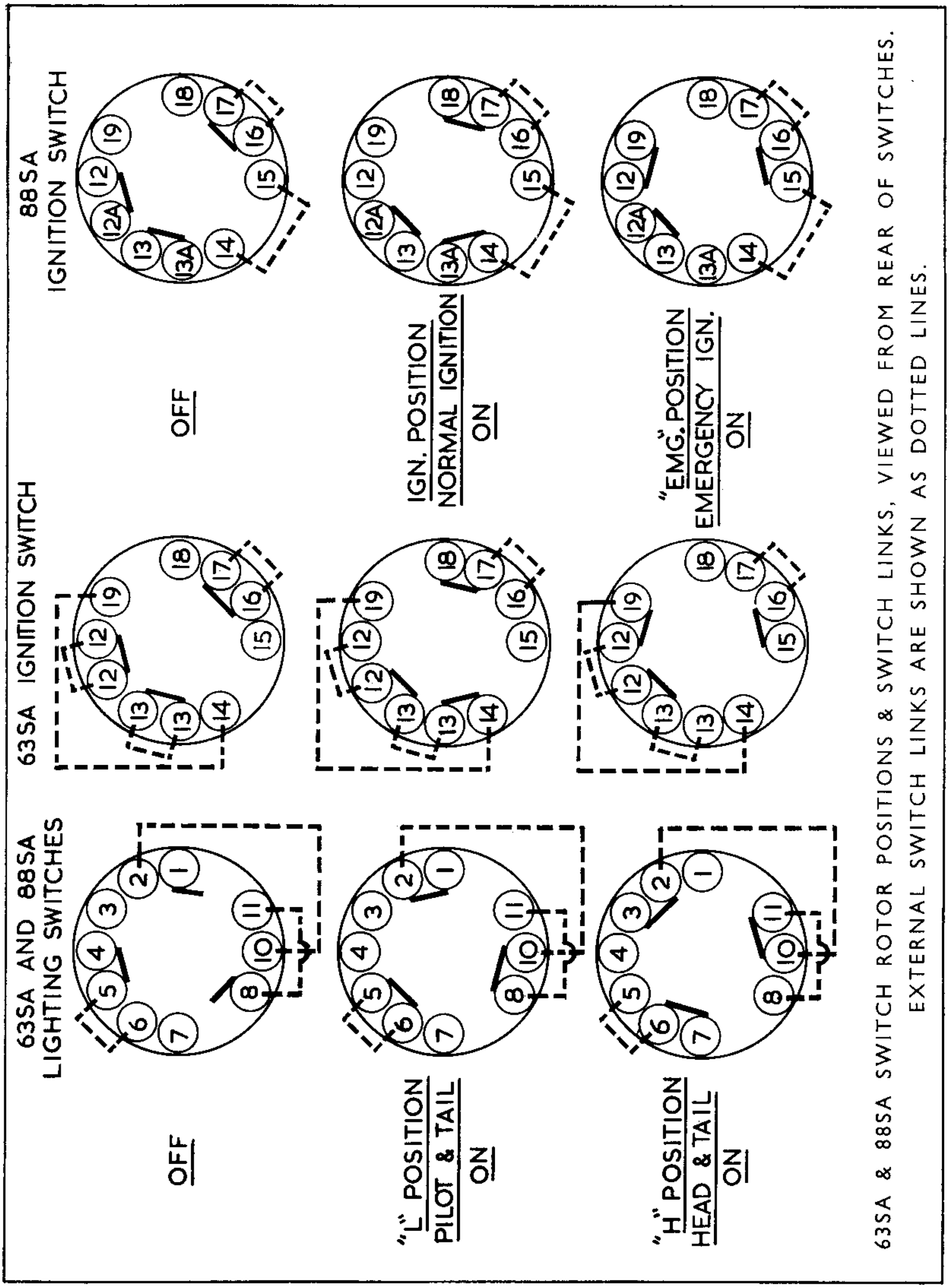
WIRING LAYOUT DIAGRAM

NOTE:
When this circuit is used on Twin-Cylinder machines a lead is included between terminal 7 on the lighting switch, and the Light Green terminal at the rectifier.

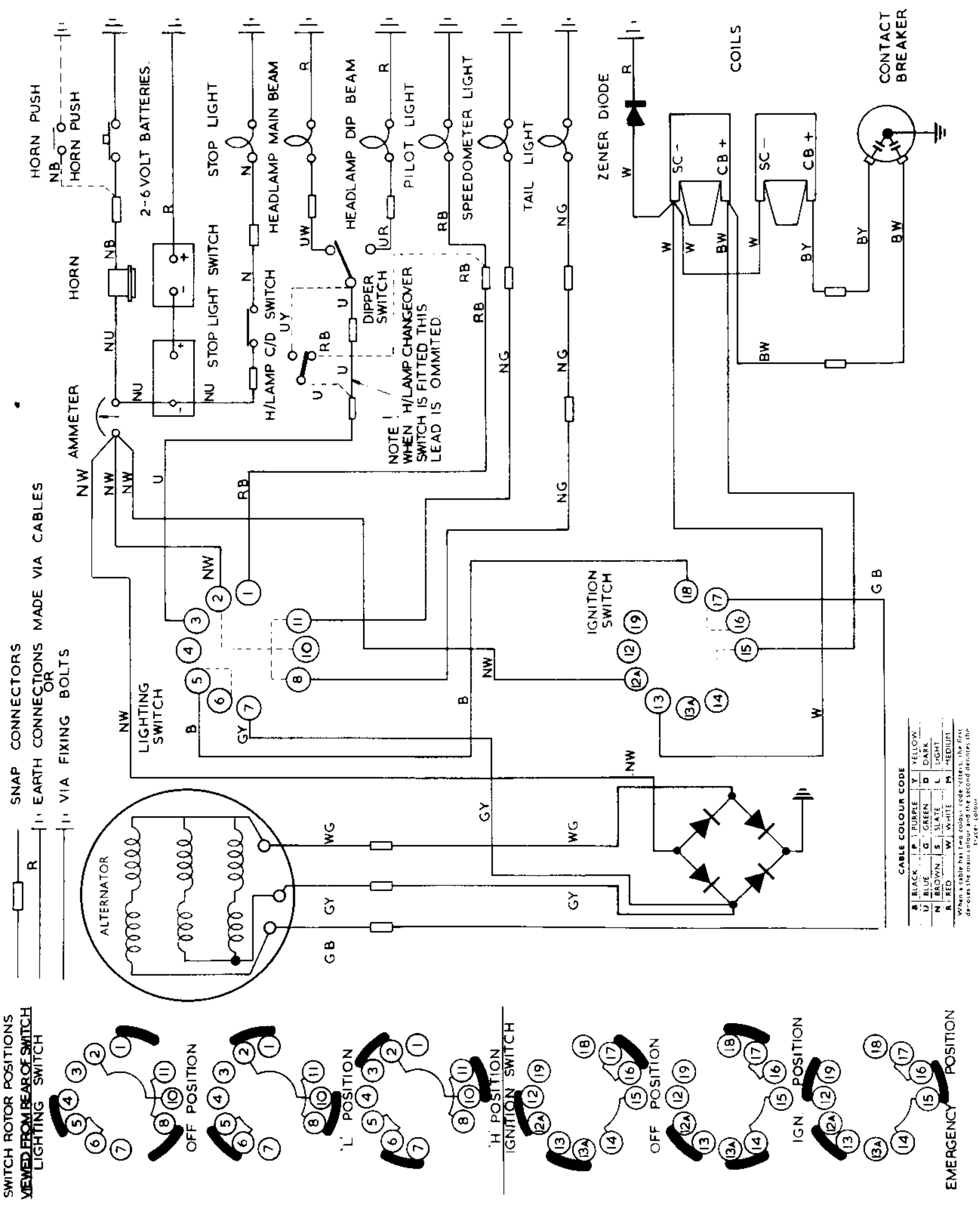
Typical Two Charge Rate Control Circuit for a Twin Cylinder Machine



Arrangement of Internal and External Connections for 63SA and 88SA Lighting and Ignition Switches

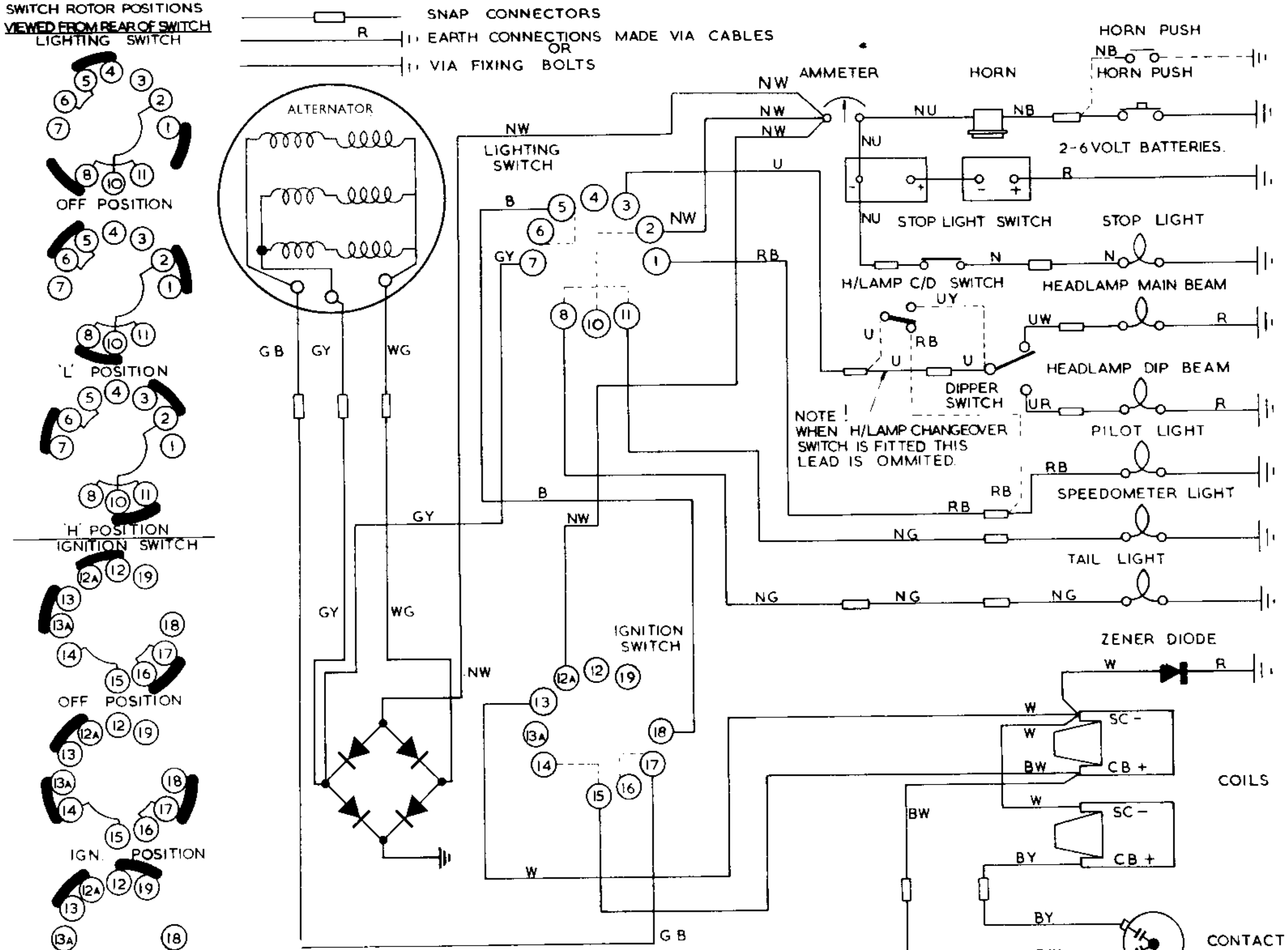


Typical Wiring Circuit for Zener Diode Charge Control System with Twin-Coil Ignition and Twin Contact-Breakers



This system incorporates Zener Diode Charge Control and Twin-coil, Twin-contact breaker A.C. ignition. Four charging coils are permanently connected across the rectifier in the "off" and "pilot" position for battery charging. Overcharging is eliminated due to the function of the Zener Diode (connected in parallel with the battery), which bypasses part of the charging current when the batteries are in a fully charged condition. The remaining two coils are brought into use when the headlamp is used to give maximum output from the alternator. For "emergency starting" the output from the two alternator coils, connected to Green/Black cable, is fed direct to the ignition coils. It should be noted that Zener Diode Charge Control is used only with 12-volt systems.

Typical Wiring Circuit for Zener Diode Charge Control System with Twin-Coil Ignition and Twin Contact-Breakers



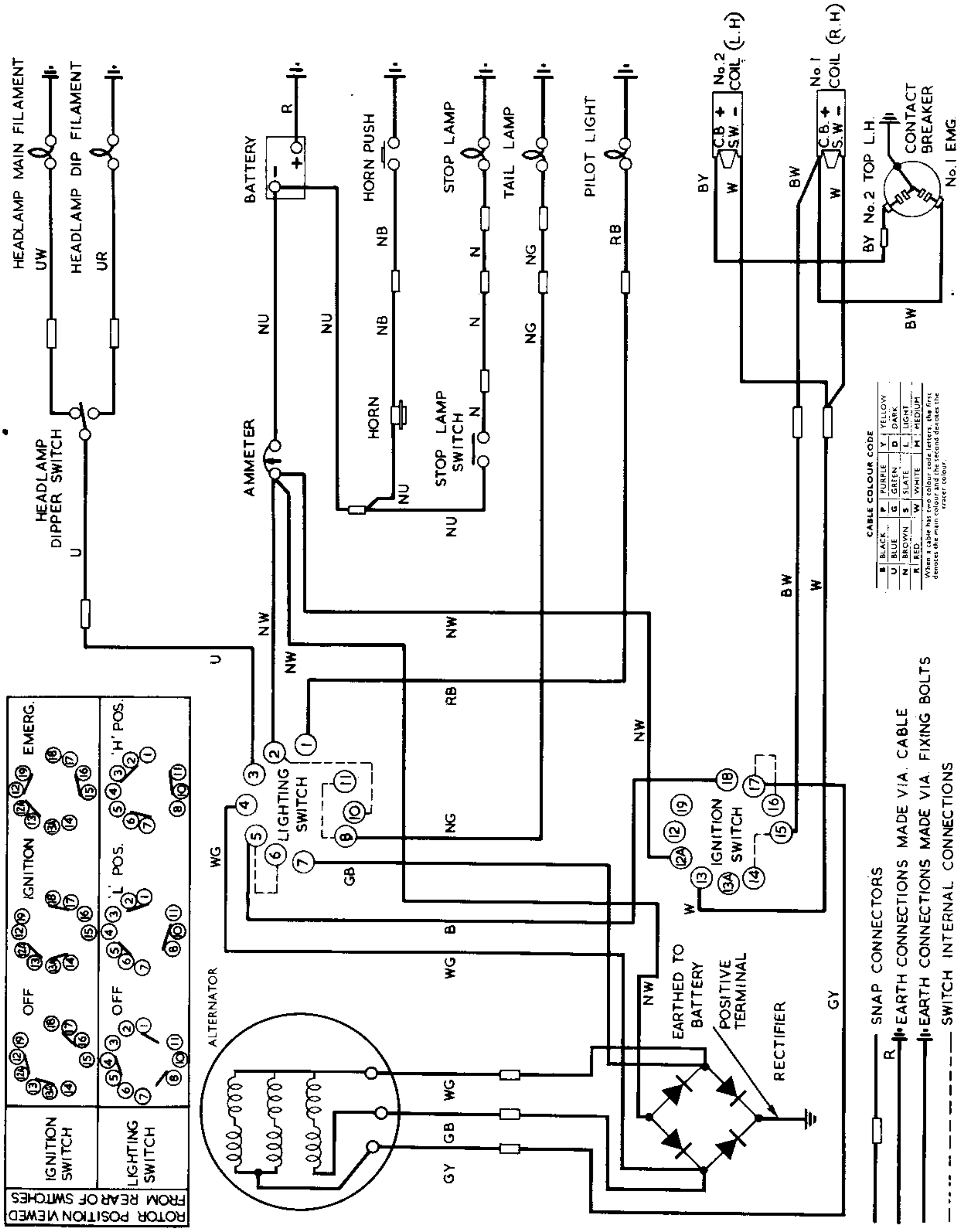
CABLE COLOUR CODE

B	BLACK	P	PURPLE	Y	YELLOW
U	BLUE	G	GREEN	D	DARK
N	BROWN	S	SLATE	L	LIGHT
R	RED	W	WHITE	M	MEDIUM

When a cable has two colour code letters, the first denotes the main colour and the second denotes the tracer colour.

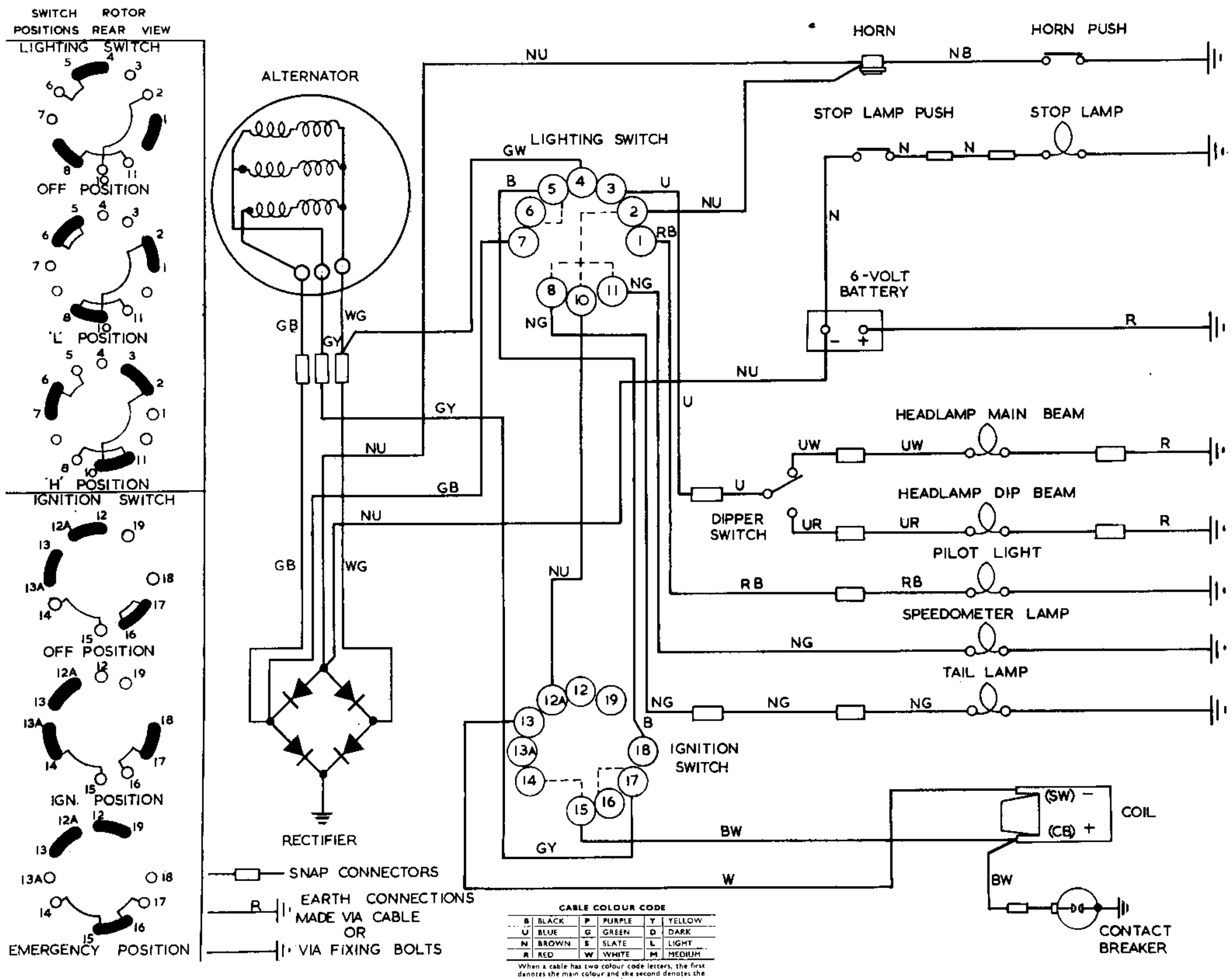
This system incorporates Zener Diode Charge Control and Twin-coil, Twin-contact breaker A.C. ignition. Four charging coils are permanently connected across the rectifier in the "off" and "pilot" position for battery charging. Overcharging is eliminated due to the function of the Zener Diode (connected in parallel with the battery), which bypasses part of the charging current when the batteries are in a fully charged condition. The remaining two coils are brought into use when the headlamp is used to give maximum output from the alternator. For "emergency starting" the output from the two alternator coils, connected to Green/Black cable, is fed direct to the ignition coils. It should be noted that Zener Diode Charge Control is used only with 12-volt systems.

Typical Wiring Circuit for Three-Rate Charging System with Twin-Coil Ignition and Twin Contact-Breakers



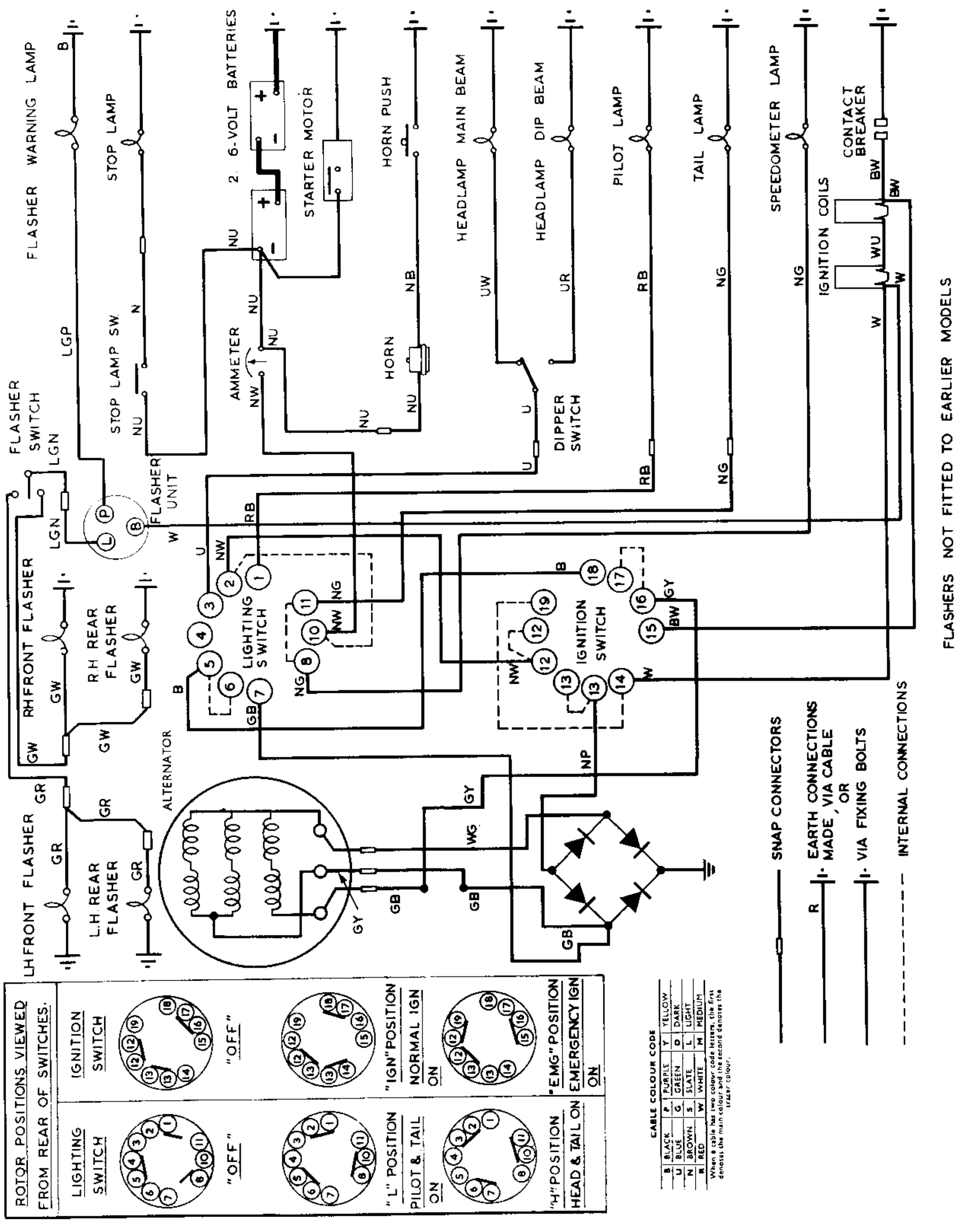
This system incorporates three-rate battery charging and an ammeter. Two alternator coils are permanently connected across the rectifier both in the "off" and "pilot" positions of the lighting switch. The control coils are short-circuited in the "off" position and open-circuited in the "pilot" position. All six coils are connected together when the headlamps are in use. The system also incorporates twin ignition coils and twin contact breakers. When starting on "emergency" ignition one of the ignition coils functions on the energy transfer principle, the other is eventually brought into use being supplied with current from the battery as it charges up, due to the permanently connected charging coils supplying sufficient energy for it to function in the conventional manner.

Typical Wiring Circuit for Three-Rate Charging System with Single Coil Ignition and Contact-Breaker



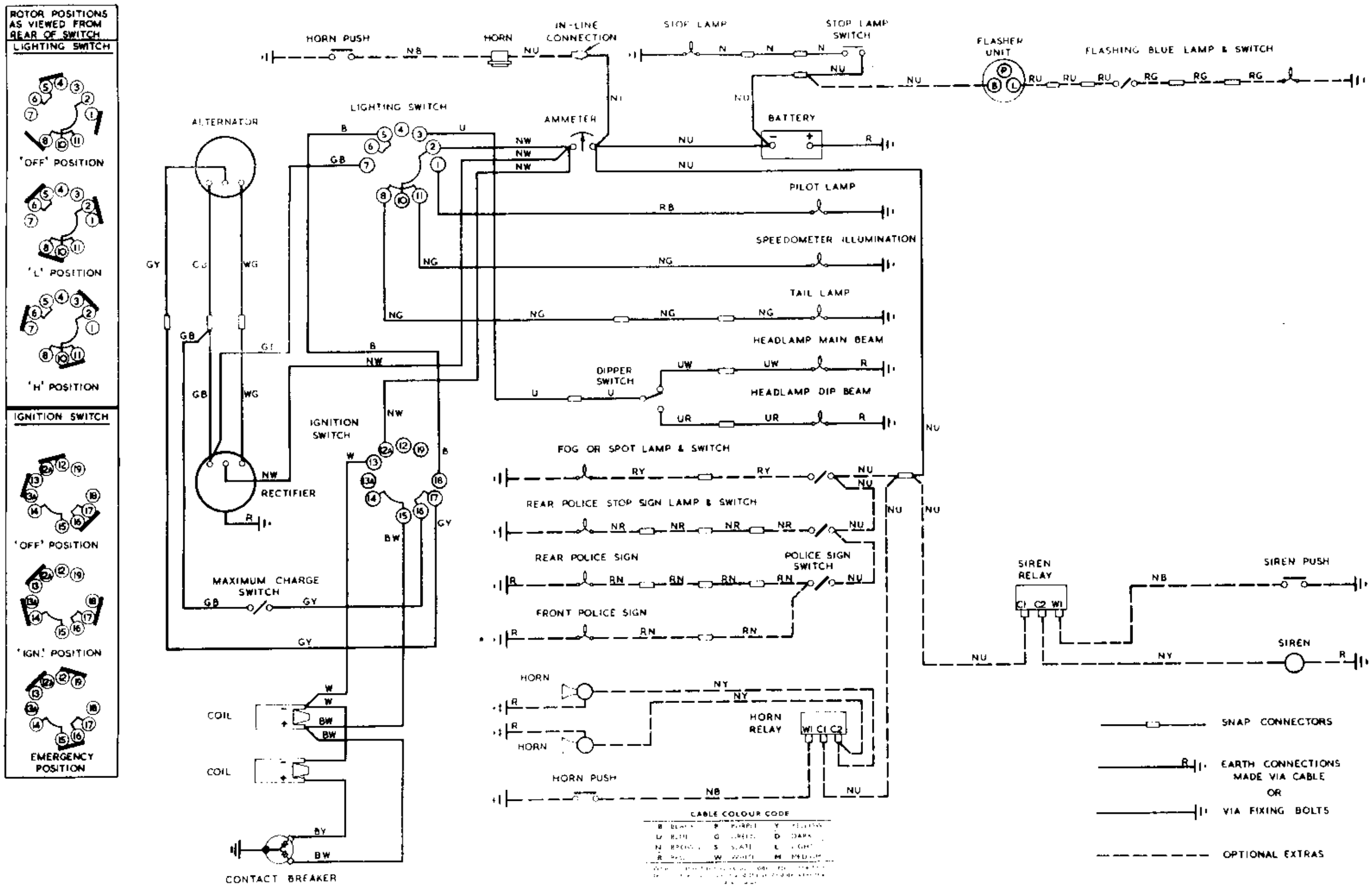
This system incorporates three-rate battery charging, two alternator coils being permanently connected across the rectifier, both in the "off" and "pilot" position of lighting switch. Six alternator coils are connected across the rectifier when headlamps are in use, so utilising full alternator output. Maximum alternator output is also available for "emergency" starting on the energy transfer principle. The control coils connected to the Green/Yellow cable are short-circuited in the "off" position of the lighting switch and open-circuited when the switch is in the "Pilot" position.

Typical Wiring Circuit for a 12-volt Two-Rate Charging System with Twin (series connected) Ignition Coils and Single Contact-Breaker A Starting Motor and Flashing Light Indicators are also incorporated



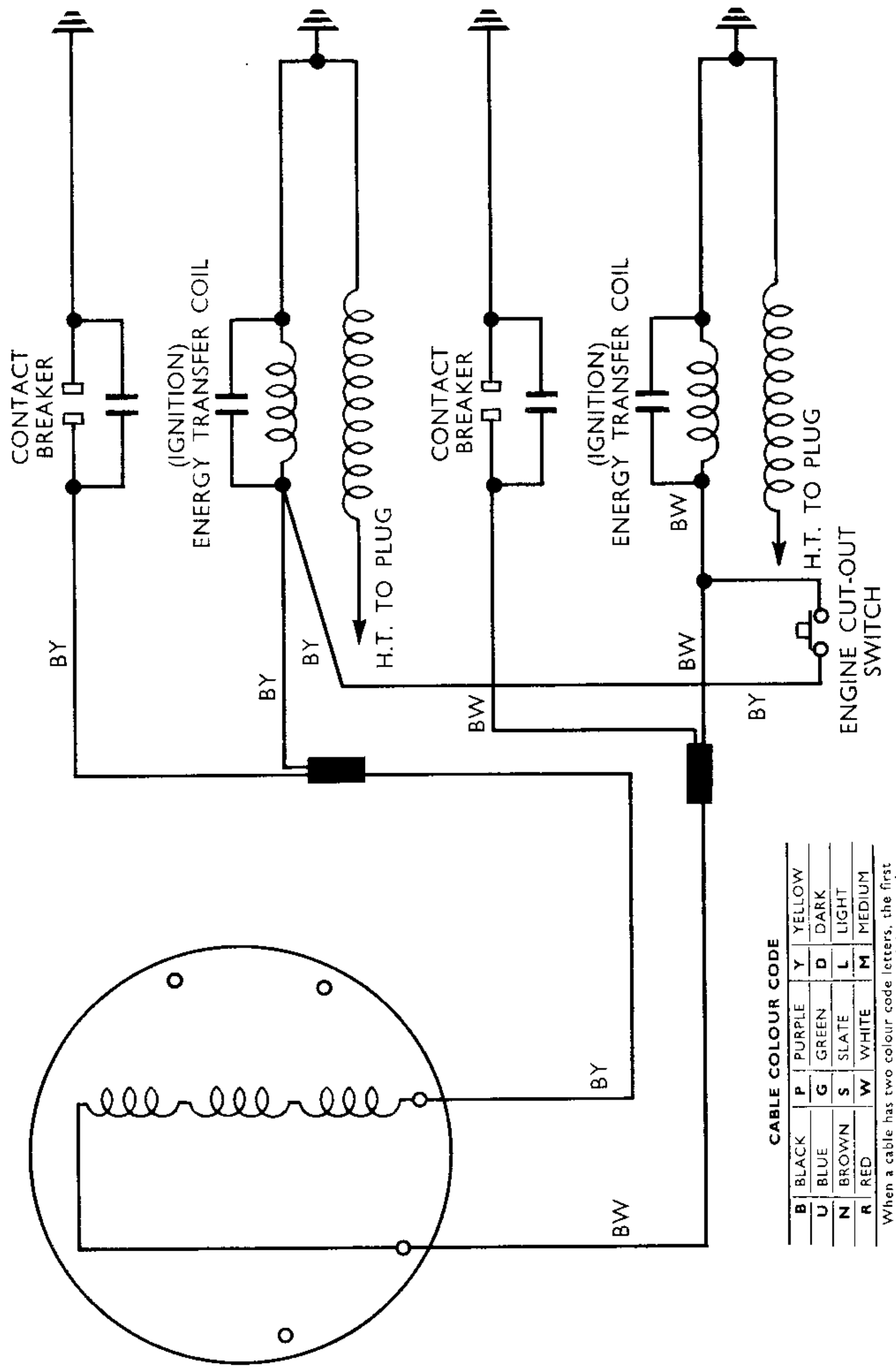
Four alternator coils are permanently connected for battery charging, the two remaining coils supply the two (series connected) ignition coils. Only one contact-breaker is used. The two alternator ignition coils supply the twin ignition coils when "Emg." position is used.

Typical Wiring Circuit for Police and A.A. Machines with Maximum Charge ("Booster") Switch—Twin Ignition Coils and Contact-Breakers



The alternator is connected to give a two rate charge, as for standard machines. Additional control of the alternator output is provided for by the inclusion of a maximum charge or "booster" switch, which when closed connects together the Green/Black and Green/Yellow cables, thereby causing the alternator to produce its full output. Although the switch can be operated at any time when the machine is in use, in practice it should only be used when it is required to bring a battery quickly up to a fully charged condition after a heavy current drain. It is not intended that it should be used continuously in circuit, as the battery may be damaged due to overcharging.

Typical Wiring Circuit for Twin-Cylinder A.C. Ignition with Twin-Energy Transfer Ignition Coils and Double Contact-Breakers —No Lights



CABLE COLOUR CODE

B	BLACK	P	PURPLE	Y	YELLOW
U	BLUE	G	GREEN	D	DARK
N	BROWN	S	SLATE	L	LIGHT
R	RED	W	WHITE	M	MEDIUM

When a cable has two colour code letters, the first denotes the main colour and the second denotes the tracer colour.

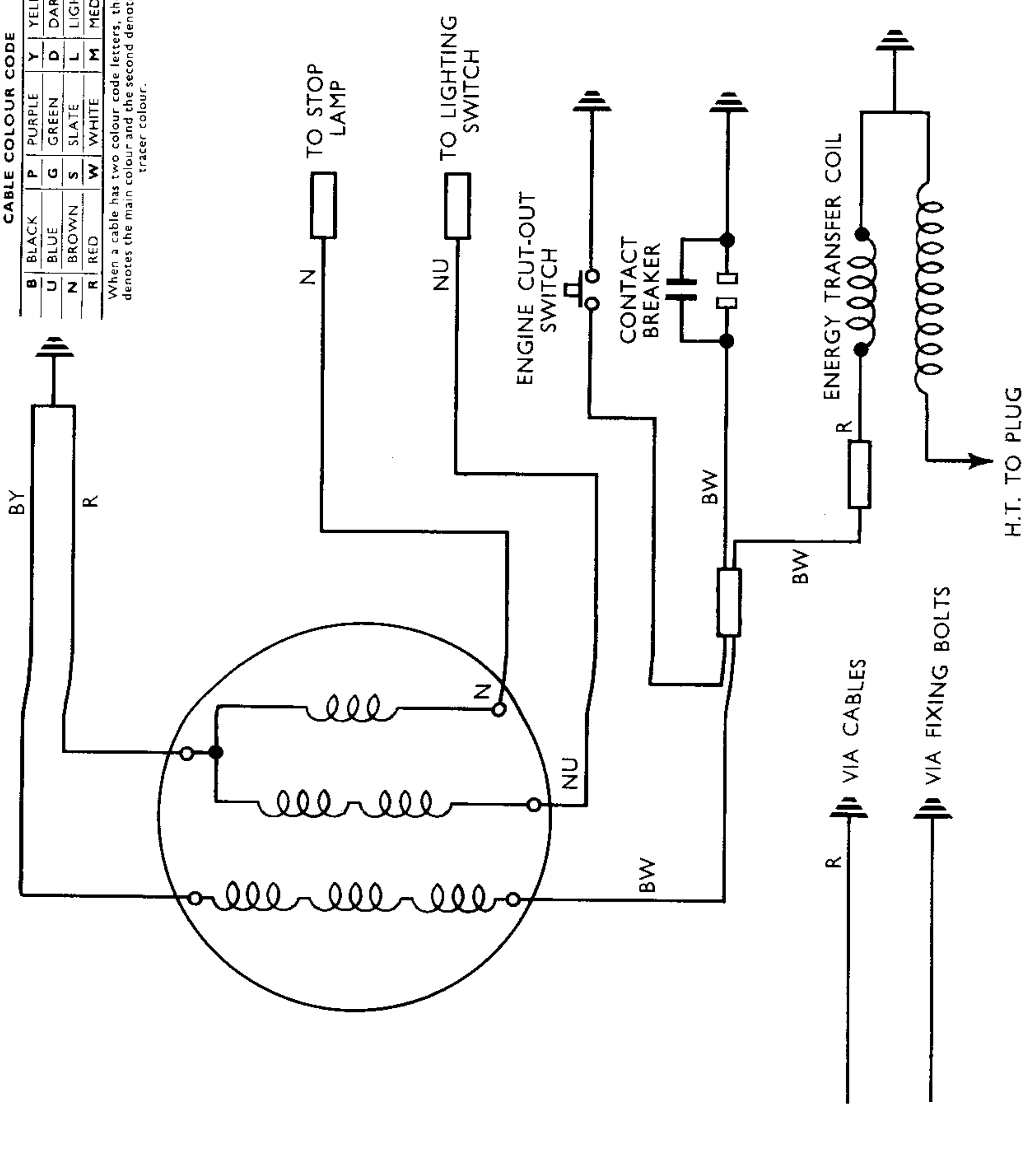
Three alternator ignition coils supply A.C. current to the two energy-transfer ignition coils An engine cut-out switch is incorporated. The alternator in this type of system is an encapsulated RM19 unit.

Typical Wiring Circuit for Single Cylinder A.C. Ignition with Single Energy Transfer Ignition Coil — Provision for Direct A.C. Lighting with Stoplamp

CABLE COLOUR CODE

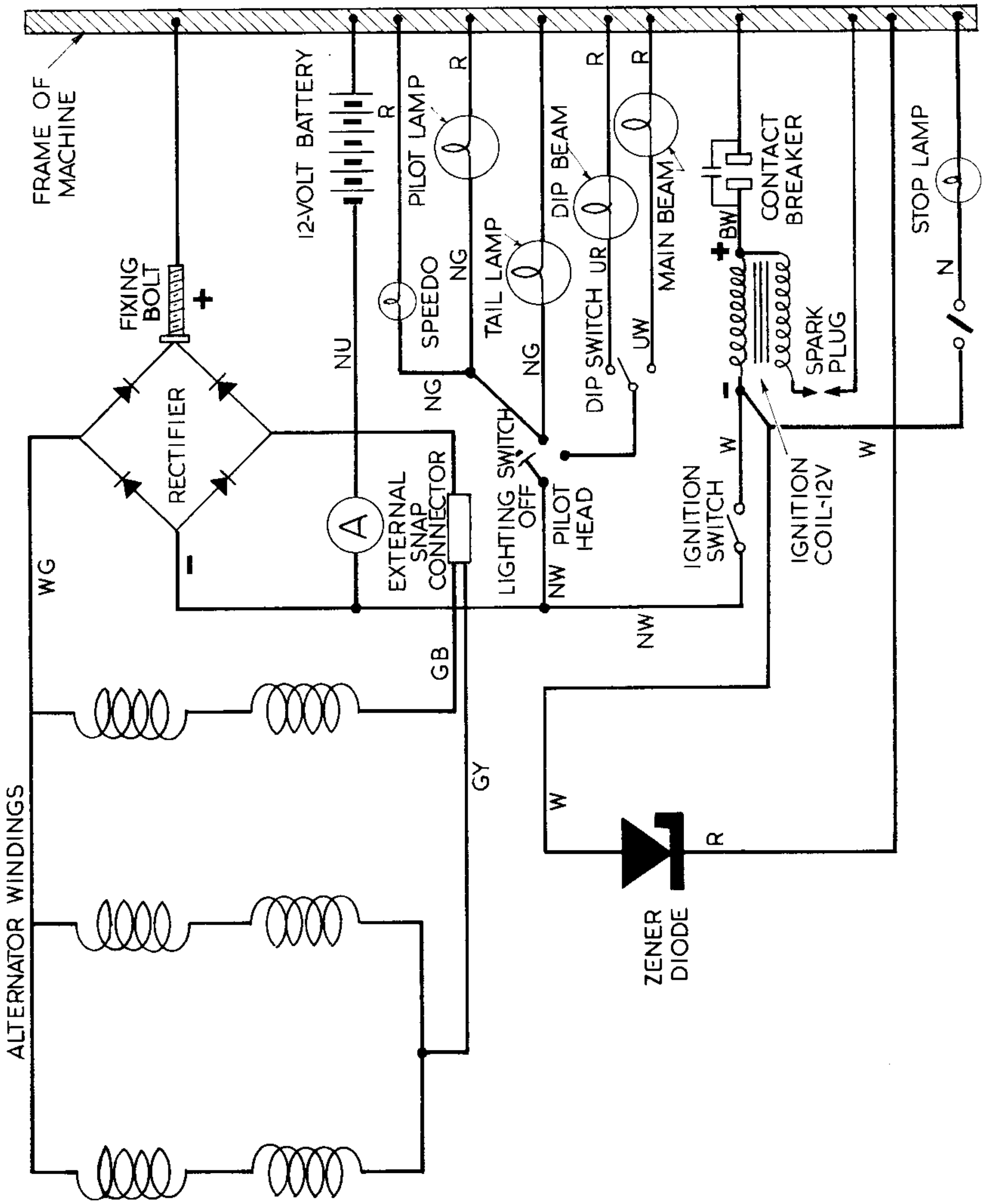
B	BLACK	P	PURPLE	Y	YELLOW
U	BLUE	G	GREEN	D	DARK
N	BROWN	S	SLATE	L	LIGHT
R	RED	W	WHITE	M	MEDIUM

When a cable has two colour code letters, the first denotes the main colour and the second denotes the tracer colour.



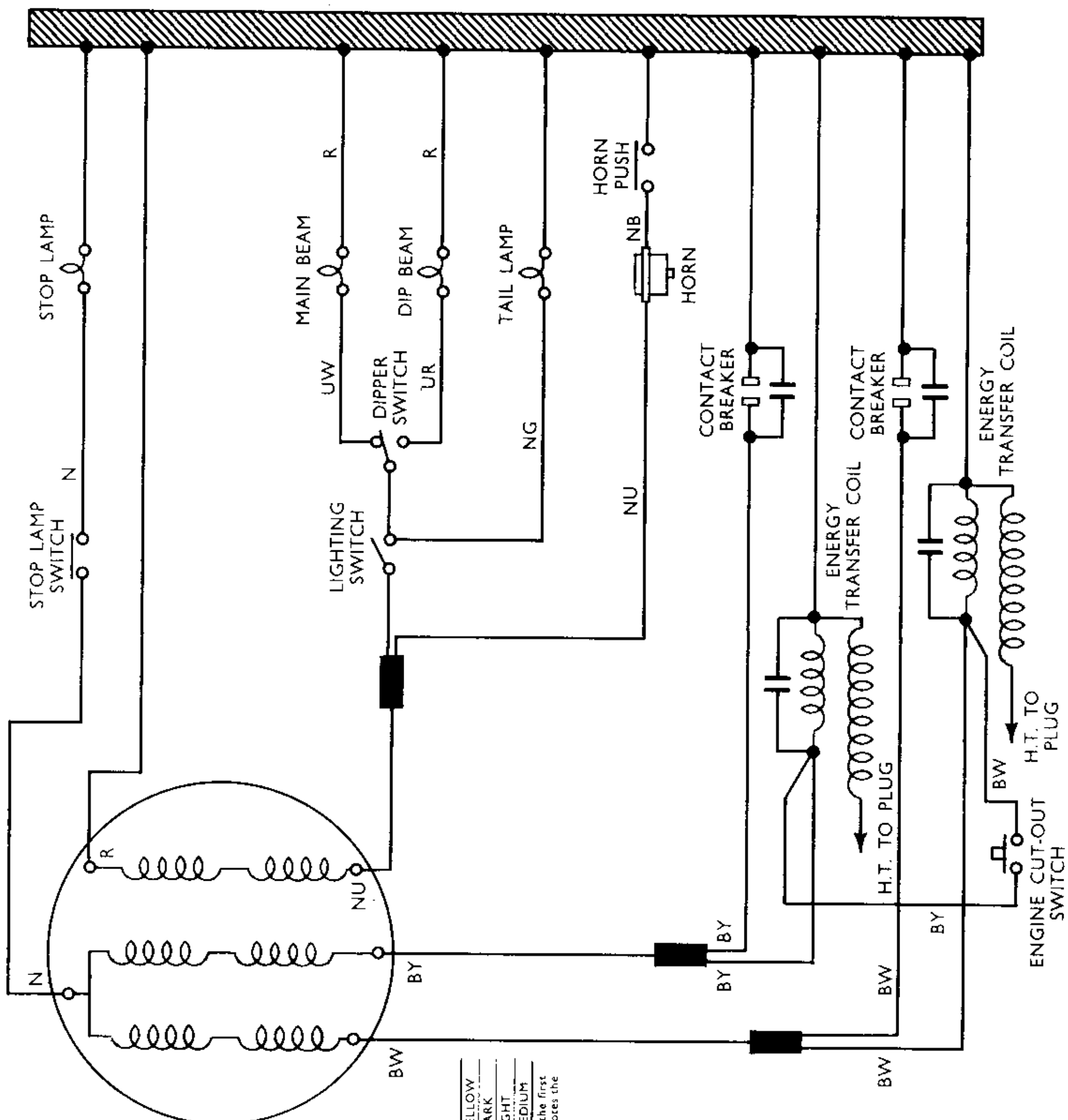
This circuit shows the connections for A.C. ignition using a single energy-transfer coil and single contact-breaker. Frequently used on scrambles machines, it can also be used on trials machines which require full lighting equipment, as separate lighting coils provide for direct (A.C.) lighting.

Zener Diode Charge Control Circuit with Alternator Permanently Connected for Full Output



Alternator windings are connected (externally) to give continuous full output irrespective of position of lighting switch. Charging current to battery is controlled by a Zener Diode. This arrangement allows for a more simplified switching and wiring circuit as compared to earlier systems.

Typical Wiring Circuit for Twin Cylinder A.C. Ignition with Twin Energy Transfer Ignition Coils and Double Contact-Breakers — Full Direct A.C. Lighting Equipment.



CABLE COLOUR CODE

B	BLACK	P	PURPLE	Y	YELLOW
U	BLUE	G	GREEN	D	DARK
N	BROWN	S	SLATE	L	LIGHT
R	RED	W	WHITE	M	MEDIUM

When a cable has two colour code letters, the first denotes the main colour and the second denotes the tracer colour.

This circuit shows the connections for A.C. ignition using special energy transfer ignition coils and double contact-breakers. Separate lights and coil provide for full (direct) lighting equipment.